A COURSE OF
LECTURES ON SURGERY,

DELIVERED IN THE
MEDICAL SCHOOL OF CAMBRIDGE.

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LECTURE XXVI.—TUMOURS CONTINUED.

The effects of simple tumours upon the neighbouring tissues are for the most part merely mechanical; they compress but do not involve the adjacent structures, or do so only to a slight extent.—The formation of capsules; their occasional thickness explained by the influence of pressure and distension in causing thickening of the surrounding cellular tissue; the effects of this influence illustrated by the changes observed in other tissues from the same cause; in the skin from tumours and cicatrices, in the bones, and in the uterus; the enlargement of the vessels around a tumour corresponds with the rate of growth of the tumour, rather than with its size; the simple tissues only are thickened by distension and pressure; the more highly organised are destroyed; practical hints afforded by a knowledge of the structure and nature of the capsules.

Adipose tumours; their characters; varieties in the proportions of their oily and fibrous constituents; varieties in their shape; parts in which they occur; sometimes they are capsulated, at others continuous, with the surrounding fat; cautions with regard to their removal; exemption of the interior of the body from them; diagnosis.

THE effects of simple tumours upon the surrounding tissues would be much the same, whether they originate, as I have supposed them to do, in the enlargement and excessive growth of a circumscribed portion of the naturally existing tissues, or whether they are entirely new formations; inasmuch as in either case, when they have once commenced they continue to increase in size, and to press upon and displace the adjacent parts, some of them forming round masses like balls, others sending out processes or lobes which may insinuate themselves between the neighbouring structures.

It is one of the grand characteristics of simple tumours, forming an important ground of distinction from those of a malignant character, that their evil influence is entirely dependent on their bulk, on the pressure they occasion, and their weight. They do not involve and destroy, or in any way impair the nutrition and physical properties of the adjacent tissues, except in the manner just mentioned. Thus the existence of an enormous simple tumour in a limb is quite compatible with a healthy condition of all the naturally-existing components of the limb, exclusive of course of that small circumscribed portion in which the tumour is supposed to have originated. The muscles and tendons pass uninterruptedly over the

tumour, or in channels formed by their pressure on its surface; the cellular tissue and the skin are entire, stretched, it may be, and compressed in various ways, but still complete; all the several structures are present, at least there is no apparent loss of any. In these specimens of fibrous tumours of the uterus, where the growth has attained to enormous dimensions, the entire structure of the organ can still be seen to exist; it is misshapen, displaced, and stretched, but it is not destroyed; indeed, as I shall presently show, it commonly undergoes an increase rather than a diminution of size. In most of these cases the tumour may be supposed to originate in the hypertrophic enlargement of a very minute fragment of the uterine tissue; one cannot tell how minute; a mere atom, a primitive cell, may be sufficient to form the nucleus of a tumour. The refractory cell and all its progeny having broken the natural laws of development, go on growing and multiplying so as to form a gradually increasing mass, which corresponds in its structure more or less closely with the natural destinies of the parent cell; still the disease is generally confined to the point primarily affected; at any rate it does not radiate any noxious and destructive influence to the adjoining tissues. In some instances, as I told you in the last lecture, the disease is from the first somewhat more diffused, that is to say, it affects an appreciable amount of structure, perhaps the whole of one lip of the os uteri, or one side of the organ; it may not be quite defined or limited to the part originally attacked; it may even extend somewhat after its first formation, by a communication of the tendency to excessive growth in the circumference. Even in such cases, although a larger portion of tissue is primarily or secondarily involved in the disease, we cannot say that it is destroyed; it still exists in an altered—an hypertrophied state.

One effect of the gradually-increasing size of a simple tumour is the formation around it of a compressed layer of areolar tissue which invests it closely, and forms what is called its capsule. If you dissect one of these capsules from around a tumour that has been growing slowly, you will find it to consist of several super-imposed layers, united more or less closely to each other, continuous on the exterior with the cellular tissue in the periphæra, and on the interior sending off delicate filaments which pass into the substance or between the lobules of the tumour. The thickness and density of the capsules vary considerably in different cases and do not bear by any means a definite relation to the size of the tumour. It may very frequently be remarked that the capsule is much too thick to have been produced by the mere compression and expansion of the cellular tissue immediately surrounding the tumour. This is to be explained in two ways; first, by the degeneration into areolar tissue of the structures nearest to the tumour, in consequence of the pressure to which they are subjected; and, secondly, by an increased growth taking place in the displaced and stretched areolar tissue which naturally invests the growing tumour. In some instances, no doubt, both these causes come into operation, but I am inclined to think

that the latter is on the whole the most frequent. It is not easy to decide whether the thickness and density of the capsules bear any constant relation to the character and rate of growth of the tumours; as a general rule they are thinner in connexion with lobulated and quickly-forming tumours than with those which are ball-like and slow in their progress.

With regard to the second mode just mentioned of accounting for the occasional thickness of the capsule of a simple tumour, viz., that an increased growth takes place in the stretched and displaced areolar tissue, it may be remarked that, considering the close connexion existing between the tumour and its investing capsule, it seems a probable supposition that the growing tendency which excites an increasing volume in the one is capable of being communicated to the other. Sometimes this takes place in some instances, but if it were the case to any great extent we should expect to find a nearer and more constant relation between the rate of growth of the tumour, and the thickness of its capsule. It is, moreover, scarcely necessary to entertain such a view with regard to the great majority of cases, because it seems to be a general, perhaps not an unexceptionable, rule, that the mere mechanical distension of certain tissues, the areolar and fibrous among others, is followed by an increase of their growth, sufficient to maintain more their natural thickness under the altered circumstances. I have already mentioned this to you, and have adduced as instances, several specimens of dilated bladder and ureters, also those specimens of dilatation of the heart, in which the auriculo-ventricular, as well as the arterial, orifices are enlarged, the valves being at the same time widened and strengthened, so as to prevent regurgitation of the blood. Examples illustrative of the same thing are by no means uncommon. You have probably often remarked that the coats of a dilated or varicose vein are much thicker than natural, although the dilatation here evidently depends upon the inability of the vessel to bear the pressure of the contained column of blood upon its sides. In like manner the coat of a dilated artery is commonly found to be thickened, and, provided the dilatation goes on slowly, the thickening will be found to bear some relation to the dilatation. In these cases the structure of the vessel is altered; the fine elastic tissue upon which its power of resistance mainly depended is lost, and a coarser, more opaque, inelastic, fibrous material is deposited in its stead, so that the acquired tissue is a very poor substitute for the original. The thickening is attended with degeneration; indeed, it often occurs as a sequence of the degeneration. It is not necessarily confined to the actual tissues of the arteries and veins; it often extends to the surrounding cellular tissue, and is accompanied with changes in it corresponding with those which take place in the coats of the vessels. This may be often remarked in an especial manner in the circumference of an aneurismal sac; the cellular tissue investing the sac becomes increased in thickness and density, so that several layers of it may be dissected off. Were it not for this growth of the surrounding structures, aneurisms would

not attain to so great a size as they often do without bursting. If you dissect an aneurism with the surrounding cellular tissue thus thickened and compressed, you will perceive that the tissue is altered in structure as well as increased in quantity, the layers of which it is composed being coarse, stiff, opaque, and inelastic, not unlike that found in cicatrix, or in some of the modifications of false membrane, and it is probable that the condition of the stretched tissue approaches more or less nearly to that of a part in a state of chronic inflammation, according to the more or less rapid enlargement of the aneurism. Thus, when the swelling takes place slowly, the distension is slight, and the surrounding cellular tissue merely undergoes hypertrophy without alteration of structure. When the swelling is more quick in its progress, the cellular tissue becomes not only thicker, but it also undergoes the changes just mentioned. Lastly, if the swelling be still more rapid a contrary result is likely to be induced, for nutrition may then be so much impaired that absorption takes place instead of hypertrophy. The same remarks apply to abscesses; a slowly forming abscess is generally invested with a thick coating of compressed cellular tissue intermixed with lymph; but when the abscess advances more rapidly, the greater stretching of the adjacent tissues, accompanied with more acute inflammation, induces their absorption, or even their ulceration and mortification.

We are so much accustomed to think of pressure and distension as causing the absorption and wasting of tissues that it seems almost paradoxical to speak of their occasioning an increased growth and thickening. It is, however, sufficiently evident that they may produce either of these effects, according to the degree in which they operate. Neither will this be a matter of surprise when we reflect that other influences are in like manner attended with the most opposite results, according as they are exerted in their milder or their more severe degrees. To exemplify what I mean, it is only necessary to remind you of what has been so often said in these lectures of the different effects which result from inflammation in its different stages; how very varied, how totally dissimilar, we have found them to be. One, the incipient, stage of this remarkable process we have seen to be attended with an increased activity of the nutritive forces, and to be productive of reparation and hypertrophy. Another more advanced stage is attended with the evolution of new structures, the nutritive energies of the original tissues being at the same time impaired. Lastly, its severer manifestations are accompanied by such alterations of the circulating fluids and such a depression of the vital powers in the tissues concerned, that the affected parts are no longer able to hold out against the ordinary operations of chemical affinity and the simple laws of matter, and, in consequence, fall into a state of ulceration or mortification. If it be true, then, that these several effects are the result of one and the same influence, operating with different degrees of force, we shall have little difficulty in assenting to the statement that both hypertrophy and absorption may be occasioned

by one and the same mechanical power, exerted in a slower or more rapid manner.

The effects just mentioned of slowly-increasing pressure and stretching are not confined to the cellular and fibrous tissues. They are equally observable in the skin, particularly when it has been gradually stretched by a slowly-growing tumour. You will find in some cases of this kind not merely that the skin has not become thinner, but that it has acquired an actual increase of thickness; the structure of the cutis becoming coarse, and the orifices of the sebaceous ducts spread out, so as to be many times their natural diameter. This additional growth answers a favourable purpose, inasmuch as it prevents all painful dragging of the neighbouring skin, at the same time that it preserves the cutis of sufficient thickness and strength to bear the chafings and chances of rupture to which it is necessarily exposed.

Even the solid framework of the skeleton is not proof against the same influence, for the walls of the antrum, the bones of the skull, and occasionally the bones of the extremities, are expanded over tumours formed within them to an extent which shows that the change which can only be the result of a process of growth excited by the pressure of the foreign body. The ramus of the lower jaw in this specimen is seen to be enlarged to several times its natural size by a tumour, doubtless of slow growth, formed within its substance. The wall of the bone remains entire, constituting a complete shell over the tumour; and, although it is so much expanded, it retains very nearly its natural thickness. The dissection of this great tumour from the region of the parotid gland furnished an example of a corresponding change in a nerve, inasmuch as the portio dura passing over the tumour was very much elongated, without having lost any of its function, and without being at all smaller than natural. Perhaps the most remarkable instance of the change we are now discussing is furnished by the uterus when a tumour is formed between its walls or projects into its cavity; in either case the stretched tissue, which may be a part or the whole of the organ, becomes thickened, its fibres are at the same time rendered more distinct, and its structure approximates to the condition which is natural to the pregnant state.

The enlargement of the vessels, both arteries and veins, so commonly observed to take place in the neighbourhood of a tumour, and seen to be proportionate to the rapidity of its growth, is dependent, no doubt, upon another cause, viz., the great supply of blood demanded to feed the morbid mass. The correspondence of this increase in the supply of blood to the rate of growth of the tumour rather than to its size, which is a matter of every-day observation, is a fact of much interest. It accords well with the remarks made in the last lecture, to the effect that the stimulus to the nutrition of a tumour is derived mainly, if not entirely, from its tendency to increase in size. A tumour has no function to accelerate the mutation of its particles, and were it not for its disposition to grow it would be a mere inert

mass; this is proved by the fact, that when a tumour ceases to grow, it for the most part wastes away, or undergoes calcareous degeneration.

This relation between the size of the vessel which supply a tumour, and the rate of the tumour's growth, is obviously a point of much practical importance to the operating surgeon. You have probably sometimes been surprised at the small amount of hæmorrhage occasioned by the removal of large tumours, which had grown slowly, and *vice versâ*. The same relation also furnishes an assistance in the diagnosis between simple and malignant tumours, because the latter grow more quickly, are generally more vascular, and the cutaneous vessels over them are in consequence turgid, and bleed easily. A little caution is required in order to appreciate this symptom correctly, for, owing to various causes, such as the languor of the cutaneous circulation, or the pressure upon deeper vessels, the arteries and veins covering a simple tumour, or even a chronic abscess, often become a good deal dilated, acquire a sort of varicose condition, and may even burst and pour forth a large quantity of blood. I have known alarming hæmorrhage from spontaneous rupture of the varicose cutaneous vessels covering a pendulous adipose tumour, and you must often have been surprised at the quantity of blood which sometimes escapes from incisions through the livid integuments covering an abscess. The fact is, that in both these cases the vessels lose their natural contractile property, becoming like the vessels of a nævus, so that when an opening is made into them the blood flows through it as it would from a tube of leather. A remarkable instance of this occurred in the hospital a few months ago. I made an incision on the outside of the thigh, where the skin had become livid, for the purpose of opening an abscess, when I was startled by a gush of blood, as though an aneurism or large artery had been wounded. It was accompanied by a stream of matter, the blood and the pus flowing out together into the basin. Feeling certain that no large vessel had been wounded, and suspecting that the hæmorrhage depended upon a dilated and powerless state of the small arteries and veins, I quickly plugged the wound with lint, and applied a bandage. The bleeding ceased and did not return, but the patient was greatly weakened and very faint, having lost a large quantity of blood in a very short time. I have no doubt he would have bled to death had not the hæmorrhage been stopped very quickly.

It is to be remarked that the gradually increasing pressure and distension caused by a slowly growing tumour has the effect of inducing hypertrophy and thickening only in the case of the simple tissues such as the cellular and fibrous, the serous and mucous, the osseous and nervous; those, in short, which are liable to hypertrophy in consequence of the continued operation of a slight amount of inflammation, or a long-standing irritation. The more complicated, more highly organized, and more active structures, muscle, gland, and vesicular nerve matter, are not affected in this way; they suffer absorption at once. Thus the pressure upon

an internal organ occasioned by an increasing mass, whether it originates on the outside or in the interior of the organ, is invariably productive of a loss of substance. The effects of the serous cysts in the kidney and the hydatids in the liver are good examples of this; and many others of the like kind will occur to you.

A few practical remarks relating to operations for the removal of tumours, suggest themselves from what has now been said. First, a simple tumour is so far separate and distinct from the surrounding tissues that it may be taken away, in the great majority of instances, without the loss of any appreciable amount of the natural structures. Secondly, the capsule of a simple tumour is not an inherent or constituent part of the mass, but is the result of changes in the surrounding cellular and other tissues, caused by the pressure and distension exerted upon it by the gradually increasing tumour. There is, therefore, no necessity for removing the capsule; it will shrink, and the tissue composing it will gradually return to its normal state after the tumour has been removed. Indeed, it is not wise to attempt the extirpation of the capsule, because—and this is especially true of fibrous growths—it has a far less intimate connection with the tumour than with the structures lying in its immediate circumference; so that it is a much easier and safer proceeding to cut down at once through the capsule, and turn the tumour out of its bed, than it is to dissect the tumour and capsule together from their connections. Thirdly, in removing a large tumour, which projects externally and has occasioned considerable stretching and elongation of the skin, you should not attempt to save all the integuments; for if you do so, they will be found more than sufficient to cover the wound, and will hang in folds unsightly and unfavourable to speedy union. These folds, it is true, will gradually shrink and perhaps will altogether disappear in the course of time; but they are long in doing this, and there is no advantage in preserving them. You should endeavour to regulate the preliminary incisions so as nearly to adapt the integumental flaps to the wound that will remain after the extirpation of the tumour.

Of all the solid tumours the “adipose” are the most simple in their nature and characters, the most uniform in their appearance, and the most harmless. In structure and chemical composition they resemble, in all respects, the common adipose tissue, being made up of oil vesicles enclosed in the meshes of the areolar membrane. So similar is the morbid to the natural structure, that dissection, chemical and microscopical examination, often fail to enable us to distinguish the one from the other. Nevertheless, you are not to suppose that these tumours, any more than the common adipose tissue, always present the same appearance. In the anatomical and chemical composition of each of their two chief constituents—the oily matter and the membrane—they do not vary much, probably not more than the fat naturally found in the body; but they vary a good deal in the relative proportions which these two constituents bear to one another. Sometimes the

oily matter preponderates; the tumour has then a soft delicate structure resembling the adipose tissue in very fat persons. In other cases the areolar or fibrous element is in excess; the tumour is then more tough and dense, and has a compressed appearance as though it had grown in a confined situation. It may even resemble a fibrous tumour so closely, that it would be difficult, without microscopic or chemical aid, to ascertain its real nature. A few weeks ago I removed from the arm of an infant, eight months old, a fatty tumour of the size of a walnut. It was not well defined, so that we had some difficulty in ascertaining its boundaries during the dissection. It proved to be of tough structure, and the fibrous element preponderated so much that it closely resembled some of the soft succulent, fibrous tumours, and it might have passed as such had not a more accurate examination clearly showed that it was adipose. I have no doubt that many tumours supposed to be fibrous or regarded as fibrous tumours, which have fallen into a state of fatty degeneration are, in fact, merely examples of adipose growths with a preponderance of the fibrous element in their composition.

Adipose tumours vary also a good deal in their shape; in some instances they are round, oval, or egg-shaped, quite distinct from the surrounding parts, and invested with well-marked capsules, to which they are loosely connected, so that when the capsules have been divided they may easily be turned out of their bed and detached, by a few strokes of the knife. In other instances they are deeply fissured and lobulated; the lobules branching away from the parent mass may become detached from it, so as to form separate tumours; or they may insinuate themselves among the neighbouring organs, so as to require a troublesome or difficult dissection for their removal. The dissection in these cases is the more difficult, because the investing capsule is generally thin. Not uncommonly it is impossible to discover any capsule at all, the tumour being gradually lost in the surrounding tissue.

Fatty tumours are most common in women and in corpulent persons. Their most usual seat is the subcutaneous adipose tissue, where their ordinary shape is that of a mammary gland—a disc, flattened on one side, with the convexity towards the skin; sometimes a small conical lobule growing from near the centre of the mass causes a nipple-like elevation of the skin and creates a very close resemblance in shape to the breast. Here is a preparation labelled “mammary gland from the thigh of a man,” you see it consists of a subcutaneous, adipose tumour, shaped as I have been describing, with one of these little nipple-like processes projecting from its middle. The subcutaneous adipose tumours are not, however, always of a disc shape; they may present all the varieties of external configuration and of relation to the surrounding structures which have just been mentioned. For the most part they are lobulated on the outer surface and at the edges, flat and smooth on the deeper side, and they resemble very closely the tissue in which they are imbedded; for instance, they are tough, with a considerable admixture of fibrous

tissue when they occur on the back, and are comparatively soft when found on the abdomen or inner sides of the extremities. They occur most frequently upon the trunk, in the neck, about the nates, and shoulders; not that they are by any means uncommon in the extremities. They seem to grow most readily in parts where the fat is subject to the greatest variations in its quantity, and have least disposition to form where the skin is tough, and where the subcutaneous stratum contains much fibrous tissue; thus they are seldom met with in the hands or feet, especially in the palms or soles, or upon the face and head. Sometimes they form about the eyelids and in the scalp. Here is a specimen of a flattened disc-shaped fatty tumour lying under the scalp; it is covered with a thick capsule and is without lobules.

Like that of the adipose tissue in which they form their connexion is more intimate with the skin than with the subjacent stratum of cellular tissue: they follow the skin in its inflexions and sometimes become quite pendulous. They generally admit of being moved easily upon the subjacent parts, being separated from them by a layer of the loose areolar membrane which lies beneath the adipose tissue and which forms a continuous sheet over the greater part of the body. Sometimes they press their way through this membrane and insinuate their lobules more deeply into the limb. The skin is necessarily stretched a little over them, and you may generally see that it is thrown into little eminences and depressions, corresponding with the lobules of the tumours. Indeed the skin is bound closely to the tumour by fibrous septa passing from it into the intervals between the lobules. These septa are the processes which in the natural state connect the skin with the subjacent adipose tissue, and their contiguity in the tumour shows a relation between it and the skin, which we can scarcely explain except by the supposition that the tumour consists merely of a certain portion of the adipose tissue in a morbid or hypertrophied condition.

These subcutaneous adipose tumours are not always solitary; some persons have a constitutional disposition to them, as in the case of a young woman mentioned by Mr. S. Cooper, who had eight large fatty tumours in various parts of the body. They are usually unattended with pain or any constitutional disturbance; they are annoying only from their size, their unsightliness, and from the chafing to which the skin over them is exposed. Sometimes, however, they are accompanied with a good deal of uneasiness and pain shooting from them to a considerable distance. A few years ago a middle-aged woman presented herself at the hospital, with a number of little hard tumours just beneath the skin, at various parts of the body; they were very tender and painful, and corresponded exactly to the descriptions of the "painful subcutaneous tubercle" given in some works on surgery. I was quite uncertain as to their nature, and was rather surprised to find upon removing them that they were merely hard knotty balls of fat. The wounds made in the operations necessary for their extirpation healed quickly, and the patient got quite well.

Fatty tumours vary much in their growth; in some

cases they attain a certain size and then remain stationary, perhaps waste away, or again increase without any obvious cause; in others they go on steadily enlarging till they have attained an enormous size: they have been known to weigh as much as thirty or forty pounds. If we determine to remove them with the knife, and all other modes of treatment are very uncertain, we should take care that the patient be in good health, for fear of erysipelas or troublesome suppuration in and about the wound. It is always well to bear in mind, that persons are most likely to consult us respecting these and other growths of the like kind when they are out of health, and consequently unfit to bear an operation; they do so because the tumour is then most productive of pain and annoyance. The operations for the removal of fatty tumours are commonly easy of execution; the most tedious stage of the proceeding consists in reflecting the integuments which are often closely adherent to the tumour, and it is necessary to do this with care, because if they are left too thin so as to present a blue appearance after the operation, they are almost sure to slough, and an ugly scar remains.

Before you begin the operation take care to ascertain the connexions of the tumour as accurately as you can by manipulation, remembering that these growths sometimes extend deeply, and that you may, possibly, be called upon to practise a difficult dissection when you expect to perform only a slight and simple operation. It is important on this and all other occasions of the like kind, to contemplate the liabilities beforehand. If, instead of taking the trouble to do this, you set about the operation in a careless manner, as though it were too insignificant an affair to deserve attention, you will sometimes find yourself much perplexed, perhaps your patient's life will be endangered. I say this because I have more than once known a good deal of unexpected trouble and embarrassment arise in the course of operations for the removal of subcutaneous fatty tumours. The wounds consequent on these operations do not generally heal up at once; suppuration commonly takes place, and you should be on the watch to afford an early vent for the pus, by removing some of the dressings.

The subcutaneous adipose tissue is, as just said, by far the most frequent seat of these growths, but they are not altogether confined to that locality; they sometimes occur in the substance of the spermatic cord, and beneath the fascia of a limb, deep in between the muscles. In the latter case they are usually globular or egg-shaped, quite circumscribed, have distinct capsules, and present an uniform, compact, pale structure; perhaps the section has a radiated appearance. Altogether such a tumour looks not unlike a potato or a parsnip. The exemption of the interior of the body from these growths is certainly remarkable, because there are several situations in the neighbourhood of the internal organs where the fat accumulates in large quantities, and is subject to great variations; such are the surface of the heart, the region of the kidneys, and the abdomen generally, more particularly the omentum and appendices epiploicæ. Very seldom do we find an inordinate

growth of fat in any one of these parts, unless there is a tendency to obesity displayed in a proportionate manner in all the others. This remark does not apply to animals so strictly as to the human being, for fatty tumours are occasionally developed in them about the internal organs. In the College of Surgeons there is a remarkable specimen of a fatty tumour of the heart, taken from a sheep which had breathed with difficulty during life. The tumour evidently consists in an enormously hypertrophied state of the fat naturally existing about the heart, for it surrounds the whole organ, obscuring, compressing, and destroying the muscular substance, and forming large masses which project into the auricular and ventricular cavities.

The diagnosis of fatty tumours is for the most part easy; their connexion with the skin, their elastic feel, their lobulated margin, generally inform us of their nature with sufficient certainty. Sometimes difficulties arise. I have known a large malignant growth of the back mistaken by an eminent and experienced surgeon for an adipose tumour, and the operation for its removal was commenced before the error was discovered. As a general rule the time of duration of the swelling would assist materially in the diagnosis between fatty and malignant growths; a tumour of the latter species simulating fat would be rapid in its progress, whereas the former are generally slow. In the case just referred to no information on this point could be derived from the history, the patient not having been aware of the presence of the swelling till it had attained a large size, and was discovered accidentally by his wife. Again it has often happened, that the surgeon in the midst of his operation has been startled by a sudden gush of pus from the supposed adipose tumour, and has been thereby informed, to his surprise, that he was treating an abscess. Of the liability to this mistake I have already spoken to you. There is no sure means of avoiding it without resorting to the grooved needle; this little instrument you need not scruple to use where there is a doubt; it will do no harm, and may save you from the somewhat annoying exposures which surgeons who neglect such precautions are sure occasionally to meet with. The mistake is not a very serious one, for it is often the best treatment of a chronic abscess, with thick indurated walls, simulating a tumour, to cut it out, when this can be done without danger.

It is sometimes difficult to form a correct opinion of the connexions of a fatty tumour; the several parts of the tumour move easily one upon another, and you may find a prolongation of it extending deeply into the limb without there having been any sign of its doing so before you commenced the incisions. Mistakes have also arisen about the position of the tumour; it has been found underneath the fascia when thought to be subcutaneous. In one instance I have heard of a surgeon opening the abdominal cavity in search of a tumour which was supposed to be subcutaneous, or, at any rate, superficial. It was a fatal mistake, one you would think that might easily have been avoided, but it is really not always so simple a matter as it would

seem, to decide whether a tumour is beneath the peritoneum or in the superficial parts of the abdominal wall. Let this, therefore, be an additional warning against hastily and carelessly setting about an operation for the removal of a fatty tumour; the very fact of the operation being generally an easy matter, renders it the more necessary for you to be on your watch against the difficulties attendant on exceptional cases.

Fatty tumours are very seldom the subjects of any changes in their composition. They are already of so low and simple a structure, that they can scarcely degenerate to an inferior condition, and they are found to remain sometimes for many years without growing, and without undergoing any appreciable alteration of structure, it may be even without alteration of shape or size. Neither are they liable to inflammation, except under some peculiar circumstances, such as exposure to severe injury. Now and then an abscess has been found in a fatty tumour, or the mass has sloughed away, but these are very rare events, and are to be regarded as accidental.

ON THE PRESENT STATE OF THERAPEUTICS.

By CHARLES BECKETT, Esq., HULL.

Read at the Eighteenth Anniversary of the Provincial Medical and Surgical Association, held at Hull, August 7th and 8th, 1850.

"The materia medica of the rational physician is also a physiological doctrine, for it occupies itself in the endeavour to obtain an insight into the mode of action of the remedies on the organic matter."—British and Foreign Medical Review, October, 1847. p. 295.

AMONG the various peculiarities which distinguish the present from all previous epochs of medical science, the position and prospects of the department termed therapeutics, or the application of remedy to disease, stand perhaps pre-eminent in interest and in grandeur. Never, perhaps, had rational medicine to contend with a more formidable array of presumptuous and abortive empirical systems parading their rival claims; whilst, happily, she never was in a better position to vindicate her legitimate and unassailable superiority, and not only to maintain a defensive, but in the eyes of all competent observers to carry on an aggressive warfare. Indeed, it would seem, that while other systems have sprung into existence, fully complete, at once armed at all points, like Minerva from the train of Jupiter, and like her, in some instances, greeted by a shower of gold, the votaries of rational medicine have generously neglected, as it were, their corporate and merely professional interests, in order that they might noiselessly, patiently, and humbly, sit as learners in the great school of Nature, poring over her profoundest secrets, watching her most recondite phenomena, and following step by step the footsteps of her great original, through the vast field of organic life.

The consequence of all this is, (although public opinion may not at present be an infallible appeal owing to the incapability of weighing the evidence,